AMENDMENTS FOR THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

<u>Listing of Claims:</u>

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1.   (Currently Amended) An apparatus for encoding realtime and non-realtime contents, the apparatus comprising:

a ~~first~~ <u>non-realtime</u> encoder configured to encode non-realtime content into encoded non-realtime content slices;

a ~~second~~ <u>realtime</u> encoder configured to encode the realtime content into encoded realtime content slices;

a remultiplexer configured to repacketize the encoded non-realtime content slices and the encoded realtime content slices into transport packets; and

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a re-timestamp unit coupled to the remultiplexer and configured to provide timestamps to be applied to the transport packets in order to synchronize the realtime and non-realtime content.

2.   (Previously presented) The apparatus of claim 1, where the apparatus is located within a head-end of a cable distribution system.

3.   (Previously presented) The apparatus of claim 1, further comprising:

a clock unit configured to provide a clock signal to the re-timestamp unit and to generate a clock stream to be transmitted along with the transport stream to a plurality of terminals.

4.   (Previously presented) The apparatus of claim 1, further comprising:

a rate control unit configured to determine an encoding rate for the non-realtime content and to provide the determined encoding rate for the non-realtime content to the non-realtime encoder.

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5.   (Previously presented) The apparatus of claim 4, where encoding rate for the non-realtime content is determined based at least in part on an output rate of the transport stream.

6   (Previously presented) The apparatus of claim 4, where the rate control unit determines an encoding rate for the realtime content based at least in part on an output rate of the transport stream.

7.   (Previously presented) The apparatus of claim 1, wherein the realtime content includes video and audio contents.

8.   (Previously presented) The apparatus of claim 1, wherein the non-realtime content includes guide data.

9.   (Previously presented) The apparatus of claim 7, wherein the realtime encoder includes
    a video encoder configured to encode the realtime video content, and
    an audio encoder configured to encode the realtime audio content.

10.   (Previously presented) The apparatus of claim 5, wherein the encoding rate for the non-realtime content is further determined based on a maximum bit rate anticipated for the encoded realtime content.

11.   (Previously presented) The apparatus of claim 1, wherein the timestamps provided by the re-timestamp unit replace timestamps generated by the realtime and non-realtime encoders.

12.   (Previously presented) The apparatus of claim 1, further comprising:
    a slice combiner coupled to the realtime and non-realtime encoders and the remultiplexer, the slice combiner configured to combine slices of encoded realtime content with slices of encoded non-realtime content.

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13.   (Previously presented) The apparatus of claim 1, wherein realtime and non-realtime contents intended to be displayed in a single frame are re-timestamped by the re-timestamp unit for synchronization such that the contents are decoded and presented in the same frame.

14.   (Previously Presented) A method for encoding realtime and non-realtime contents, comprising:

    encoding realtime content to generate encoded realtime content slices;

    encoding non-realtime content to generate encoded non-realtime content slices;

    repacketizing the encoded realtime content slices and the encoded non-realtime content slices into transport packets; and

    re-timestamping the transport packets with new timestamps in order to synchronize the realtime and non-realtime content.

15.   (Previously presented) The method of claim 14, further comprising:
    generating the new timestamps based on a common clock signal.

16.   (Previously presented) The method of claim 14, further comprising:
    controlling a bit rate for the encoded non-realtime content based in part on a bit rate for the transport stream.

17.   (Previously presented) The method of claim 16, wherein the bit rate for the encoded non-realtime content is further based on a maximum bit rate anticipated for the encoded realtime content.

18.   (Previously presented) The method of claim 16, further comprising:
    allocating the bit rate for the encoded non-realtime content among a plurality of pages of non-realtime content.

19.   (Previously presented) The method of claim 14, further comprising:

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combining slices of encoded realtime content with slices of encoded non-realtime content, and

wherein the repacketizing is based on the combined slices of encoded realtime and non-realtime contents.

20.   (Withdrawn) A terminal configured to provide a user interface having includes therein realtime and non-realtime contents, comprising:

a demodulator operative to receive and demodulate a modulated signal to provide a transport stream;

a transport de-multiplexer coupled to the demodulator and operative to receive and process the transport stream to provide a sequence of transport packets re-timestamped to synchronize encoded realtime content and encoded non-realtime content included therein; and

at least one video decoder coupled to the transport de-multiplexer and operative to receive and decode the encoded realtime and non-realtime contents to recover the realtime and non-realtime contents for the user interface.

21.   (Previously presented) The apparatus of claim 1 wherein said non-realtime content comprises guide page information and said realtime content comprises video and audio information.

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